

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on July 19, 2007, and the references cited therewith.

Claims 9, 12 and 13 are amended; as a result, claims 1-30 are now pending in this application.

Claim Objections

Claims 9, 12 and 13 were objected to for the noted informalities. The claims have been amended to address the noted informalities. The Applicant respectfully submits that the objection has been overcome and should accordingly be withdrawn.

35 USC § 101 Rejection of the Claims

Claims 25-30 were rejected under 35 USC § 101 because the claimed invention is deemed to be directed to non-statutory subject matter. The Applicant respectfully traverses the rejection.

The Examiner contends that one of ordinary skill in the art may reasonably interpret that the claims fail to fall within a statutory category of invention because the specification (paragraph 012) defines machine readable medium to include propagated signals. The Applicant points out that paragraph 012 of the specification discusses that the various embodiments described may be presented as a computer program product that is transferred from a remote server by way of a carrier wave so that the machine-readable medium may include the carrier wave. It would appear that the Examiner contends that the inclusion of the carrier wave means that the claims are directed to non-statutory subject matter. The Applicant respectfully submits that the Examiner's contention is erroneous.

The Applicant points out that claims 25-30 are **not** directed to descriptive material per se (e.g., the instructions alone) which would not be considered statutory subject matter. Rather, the claims define structural and functional interrelationships between the instructions and a machine-readable medium which permit the functionality of the instructions to be realized, so that the

claims are considered statutory subject matter. The Applicant refers the Examiner to section IV.B of the Final Examination Guidelines for Computer-Related Inventions for support that the claims are directed to statutory subject matter. For example, Section IV.B.1.(a) states:

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are neither physical "things" nor statutory processes. Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the medium which permit the data structure's functionality to be realized, and is thus statutory.

35 USC § 102 Rejection of the Claims

Claims 1-30 were rejected under 35 USC § 102(b) as being anticipated by *Riddle (US Patent 5,983,261)*. For a reference to anticipate a claim it must disclose each and every element and each and every relationship of the claim. The Applicant respectfully submits that *Riddle* does not disclose each and every element and each and every relationship of the claims and accordingly the Examiner has not established a prima facie case of anticipation. Accordingly, the rejections are respectfully traversed.

Independent claim 1 is directed to a method that includes setting an initial bandwidth limit for each of a plurality of active devices associated with a controller. A total amount of extra bandwidth from the plurality of active devices that have extra bandwidth is determined. A number of the plurality of active devices that require extra bandwidth is determined. If there is extra bandwidth and one or more active devices that require extra bandwidth, the initial bandwidth limit is adjusted by reallocating the extra bandwidth to the one or more active devices that require the extra bandwidth.

The Applicant submits that *Riddle* does not disclose each and every element and each and every relationship of claim 1. For example, the Applicant submits that *Riddle* does not disclose determining a total amount of extra bandwidth from the plurality of active devices that have extra bandwidth, as required by claim 1. The Examiner contends that *Riddle* discloses this at col.

13, lines 58-62 and FIG. 8C. The Applicant submits that the Examiner's contention is clearly erroneous as neither the section nor figure referred to by the Examiner has anything to do with determining active devices having extra bandwidth or determining a total amount of bandwidth therefrom, as required by claim 1. Rather, the passage simply states that applications that receive their minimum bandwidth (consumers) may receive additional bandwidth if they haven't exceeded their maximum bandwidth and bandwidth is available. FIG. 8C simply identifies how extra bandwidth is divided amongst consumers.

The Applicant submits that *Riddle* does not disclose determining number of active devices that require extra bandwidth, as required by claim 1. The Examiner contends that *Riddle* discloses this at col. 13, lines 58-62 and FIG. 8C. The Applicant submits that the Examiner's contention is clearly erroneous as neither the section nor figure referred to by the Examiner disclose or suggest determining devices that require extra bandwidth, as required by claim 1. Rather, the portions of *Riddle* relied on by the Examiner simply discloses providing consumers (applications receiving their minimum bandwidth) more bandwidth if extra bandwidth is available after providing all the active devices with their minimum bandwidth, and the device can receive additional bandwidth without exceeding its maximum.

The Applicant submits that *Riddle* does not disclose adjusting the initial bandwidth by reallocating the extra bandwidth, as required by claim 1. The Examiner contends that *Riddle* discloses this at col. 13, line 58 – col. 14, line 20 and FIG. 8C. The Applicant submits that the Examiner's contention is clearly erroneous as neither the section nor figure referred to by the Examiner disclose or suggest reallocating bandwidth, as required by claim 1. Rather, the portions of *Riddle* relied on by the Examiner simply discloses determining if extra bandwidth is available after providing the minimum bandwidth to processes (consumers). If additional bandwidth is available it is divided amongst the consumers that have less bandwidth than the maximum. There is clearly no disclosure or suggestion of reallocating bandwidth from one active device to another, as required by claim 1.

For at least the reasons addressed above the Applicant submits that claim 1 is clearly patentable over (not anticipated by) *Riddle*. Claims 2-9 depend from claim 1 and are therefore submitted to be patentable over *Riddle* for at least the reasons advanced with respect to claim 1 and for the further features recited therein.

For example, claim 5 recites that the reallocating the extra bandwidth includes decreasing the initial bandwidth limit by the extra bandwidth from the plurality of active devices that have extra bandwidth and increasing the initial bandwidth limit by an amount based on the extra bandwidth for a select set of the one or more plurality of active devices that require extra bandwidth. The Examiner contends that *Riddle* discloses this at col. 13, line 58 – col. 14, line 20 and FIG. 8C wherein the UpdateAllocations process decreases extra bandwidth while increasing the bandwidth of devices that require it. The Applicant respectfully submits that the Examiner's contention is clearly erroneous as the decrease in bandwidth noted by the Examiner has nothing to do with decreasing initial bandwidth for active devices that have extra bandwidth, as required by claim 5. Rather, the decrease in bandwidth noted by *Riddle* is the decrease in excess bandwidth available for a device after the initial allocation of the minimum bandwidth to the active processes. Claim 5 is submitted to be patentable over *Riddle* for at least this additional reason.

Claim 9 further recites determining a reserved bandwidth, and deducting the reserved bandwidth from a maximum bandwidth prior to setting the initial bandwidth limit for the plurality of active devices. The Examiner contends that *Riddle* discloses this in FIG. 8A where the reserved bandwidth that is being currently used is subtracted from the maximum bandwidth currently available. The Applicant respectfully submits that the Examiner's contention is clearly erroneous as the Examiner appears to be equating bandwidth used to reserved bandwidth (bandwidth not allocated and therefore clearly not assigned to a device or used by a device). As required by claim 9, reserved bandwidth is deducted from the maximum bandwidth prior to allocating the initial bandwidth. Claim 9 is submitted to be patentable over *Riddle* for at least this additional reason.

For at least the reasons addressed above the Applicant submits that claims 1-9 are clearly patentable over *Riddle*. The rejection of claims 1-9 should accordingly be withdrawn.

Independent claim 10 is directed to a method that includes determining from among a plurality of devices associated with a controller if any of the plurality of devices is an active device. If one or more of the plurality of devices is an active device an initial bandwidth limit for each of the one or more active devices is set. A total amount of extra bandwidth from the one

or more active devices that have extra bandwidth and a number of the one or more active devices that require extra bandwidth is determined. If there is extra bandwidth, and one or more of the plurality of active devices require extra bandwidth, the initial bandwidth limit is adjusted by reallocating the extra bandwidth to the one or more plurality of active devices that require extra bandwidth. If none of the plurality of devices is an active device, the bandwidth limit for each of the plurality of devices is adjusted to an adjusted maximum bandwidth.

The Applicant submits that *Riddle* does not disclose each and every element and each and every relationship of claim 10 for at least reasons similar to those advanced above with respect to claim 1. Accordingly, claim 10 is submitted to be patentable over *Riddle*. Claims 11-14 depend from claim 10 and are submitted to be patentable over *Riddle* for at least the reasons advanced with respect to claim 10 and for the further features recited therein. For example, claim 13 is submitted to be further patentable for at least reasons similar to those advanced above with respect to claim 9.

For at least the reasons addressed above the Applicant submits that claims 10-14 are clearly patentable over *Riddle*. The rejection of claims 10-14 should accordingly be withdrawn.

Independent claim 15 is directed to an apparatus that includes circuitry that is capable of setting an initial bandwidth limit for each of a plurality of active devices associated with a controller. A total amount of extra bandwidth is determined from the plurality of active devices that have extra bandwidth, and a number of the plurality of active devices that require extra bandwidth is determined. If there is extra bandwidth, and one or more of the plurality of active devices require extra bandwidth, the initial bandwidth limit is adjusted by reallocating the extra bandwidth to the one or more plurality of active devices that require extra bandwidth.

The Applicant submits that *Riddle* does not disclose each and every element and each and every relationship of claim 15 for at least reasons similar to those advanced above with respect to claim 1. Accordingly, claim 15 is submitted to be patentable over *Riddle*. Claims 16-19 depend from claim 15 and are submitted to be patentable over *Riddle* for at least the reasons advanced with respect to claim 15 and for the further features recited therein. The rejection of claims 15-19 should accordingly be withdrawn.

Independent claim 20 is directed to a system that includes a storage controller and a driver capable of setting an initial bandwidth limit for each of a plurality of active devices associated with a controller; determining a total amount of extra bandwidth from the plurality of active devices that have extra bandwidth, and determining a number of the plurality of active devices that require extra bandwidth. If there is extra bandwidth, and one or more of the plurality of active devices require extra bandwidth, the initial bandwidth limit is adjusted by reallocating the extra bandwidth to the one or more plurality of active devices that require extra bandwidth.

The Applicant submits that *Riddle* does not disclose each and every element and each and every relationship of claim 20 for at least reasons similar to those advanced above with respect to claim 1. Accordingly, claim 20 is submitted to be patentable over *Riddle*. Claims 21-24 depend from claim 20 and are submitted to be patentable over *Riddle* for at least the reasons advanced with respect to claim 20 and for the further features recited therein. The rejection of claims 20-24 should accordingly be withdrawn.

Independent claim 25 is directed to a machine-readable medium having stored thereon instructions, the instructions when executed by a machine, result in: setting an initial bandwidth limit for each of a plurality of active devices associated with a controller; determining a total amount of extra bandwidth from the plurality of active devices that have extra bandwidth; determining a number of the plurality of active devices that require extra bandwidth; and if there is extra bandwidth, and one or more of the plurality of active devices require extra bandwidth, adjusting the initial bandwidth limit by reallocating the extra bandwidth to the one or more plurality of active devices that require extra bandwidth.

The Applicant submits that *Riddle* does not disclose each and every element and each and every relationship of claim 25 for at least reasons similar to those advanced above with respect to claim 1. Accordingly, claim 25 is submitted to be patentable over *Riddle*. Claims 26-30 depend from claim 25 and are submitted to be patentable over *Riddle* for at least the reasons advanced with respect to claim 25 and for the further features recited therein. The rejection of claims 25-30 should accordingly be withdrawn.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (215-230-5511) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-4238.

Respectfully submitted,

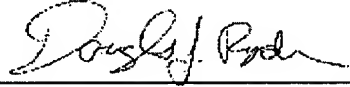
CHET R. DOUGLAS

By his Representatives,

CUSTOMER NUMBER: 46147
215-230-5511

Date October 16, 2007

By

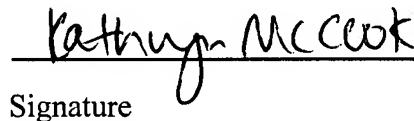


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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 16 day of October, 2007.

Kathryn McCook

Name


Signature